General Certificate of Secondary Education

MATHEMATICS A   A502/01

Unit B (Foundation)

Specimen Mark Scheme

The maximum mark for this paper is **60**.

This document consists of **5** printed pages and **3** blank pages.

SPECIMEN

1	(a)	(i) Sketch of rhombus	1	
		(ii) Rhombus	1	
	(b)	(i) Sketch of trapezium	1	
		(ii) Trapezium	1	
2		Chord Radius Tangent	1 1 1	
3	(a)	(i) 49	1	
		(ii) 27	1	
	(b)	28	1	
4	(a)	0	1	
	(b)	2	1	
5	(a)	Any decimal $0{\cdot}0854 < x < 0{\cdot}129$	1	
	(b)	Any fraction $\frac{1}{2} < x < \frac{3}{4}$	1	
	(c)	$0{\cdot}02 \quad \frac{1}{20} \quad 20\%$ oe fractions/decimals/%	2	**M1** for reverse order or one value in correct position
6		5 o'clock & 7 o'clock	2	**B1** for 5 or 7 (o'clock/am/pm/12/24 hour) ignore repeats if 24 hour time
7	(a)	21	2	**M1** for 25/100 × 84 or 84/4 or $\frac{1}{4}$ × 84
	(b)	16	2	**M1** for 80/5 or 2 × 8
8	(a)	135 not a factor of 360	2	**B1** for 360 ÷ 135
	(b)	(i) 180	1	
		(ii) Others will not fit	1	
	(c)	6	1	
9		Fully correct reflection in the line	2	**M1** for 1 or 2 points correct position or any reflection
10	(a)	2 correct lines drawn only	2	**M1** for one correct line only or 2 correct lines & others
	(b)	$\frac{1}{3}$ oe	2	**M1** for clear attempt to divide hexagon into equal triangles
	(c)	Identical	1	

11	(a)	1000	**1**	
	(b)	12	**1**	
	(c)	$\frac{9}{8}$ or $1\frac{1}{8}$ or 1·125	**2**	**M1** for either $2^3 = 8$ or $3^2 = 9$
12	(a)	1	**1**	
	(b)	Correct line drawn	**2**	**M1** for points plotted or line through (0, ⁻3) or line with gradient 2
	(c)	Correct line drawn	**1**	
13	(a)	5	**1**	
	(b)	There is an initial charge	**1**	
	(c)	$C = \frac{1}{4}m + 2$	**2**	**M1** for $\frac{1}{4}m$
14 *		Fully correct pollen count v humidity scatter graph drawn. Carmela is incorrect as pollen count only affected by humidity. Comments may include pollen count v temperature = no correlation, pollen count v humidity = negative correlation. Correct and clear language throughout.	**5-6**	For lower mark – there might be a slight slip in the plotting of the graph e.g. one point plotted incorrectly **or** minor errors in spelling, punctuation or grammar.
		Attempt at pollen count v humidity scatter graph. Considers both graphs and offers a comment on whether Carmela is correct. Comments will be in form of sentences or bullet points.	**3-4**	For lower mark – incomplete graph e.g. missing labels, 2 or 3 points incorrectly plotted **or** errors in their conclusion(s) **or** completely accurate graph but with no comments **or** a few errors in spelling, punctuation or grammar.
		Attempt at temperature v humidity scatter graph or inappropriate types of diagram drawn **and** a comment made. Little structure or poor spelling, punctuation or grammar.	**1-2**	For lower mark – graph not drawn but comment made with poor spelling, punctuation and grammar.
		No relevant comment or graph drawn	**0**	

15		Any estimation of load/weight using given numbers	**M1**	
		All four correct*

*Correct means either sensible approx. and correct calculations shown, or one of the following answers for each team:
Team 1: 20, 21
Team 2: 22, 24
Team 3: 14, 16
Team 4: 20, 17 | **A3** | **A2** for two or three values correct* or **A1** for one value correct* |
| | | Most efficient Team 2
Least efficient Team 3 | **A1** | **cao** |
16	(a)	$x < 5 \cdot 5$	**2**	**B1** for $4x < 22$ or $x = 5 \cdot 5$
	(b)	Correct line indicated	**1**	ft *their* inequality in (a)

Assessment Objectives and Functional Elements Grid

GCSE MATHEMATICS A

A502/01: Unit B (Foundation)

Qn	Topic	AO1	AO2	AO3	Functional
1	Properties of quadrilaterals		4		
2	Recall terms for circle	3			
3	Types of number	2	1		
4	Linear & rotation symmetry		2		
5	Ordering fractions/decimals/%	4			
6	Angles at a point			2	
7	Calculate %/fraction of integer	4			
8	Angles in polygons, enlargement SF		5		4
9	Reflect triangle on grid	2			
10	Hexagon, congruent	5			
11	Indices, surds	4			
12	Straight lines	4			
13	Real life graph		4		4
14	Scatter graph			6	6
15	Estimation		5		5
16	Inequality	3			
	TOTAL	31	21	8	19